

September 21, 2005

Mr. David H. Meyer  
Acting Deputy Director  
Office of Electricity Delivery and Energy Reliability  
U.S. Department of Energy  
Washington D.C. 20585

Dear Mr. Meyer:

The Washington Utilities and Transportation Commission is pleased to submit its response to the Department of Energy survey questions regarding economic dispatch included in your letter of September 1, 2005.

Section 1234 of the Energy Policy Act of 2005 requires the Department of Energy to conduct a study on the benefits of economic dispatch in the electricity industry. The Department was directed to study the procedures currently used by electric utilities to perform economic dispatch and to consider possible revisions to those procedures to improve the ability of non-utility generation resources to offer their output for sale for the purpose of inclusion in economic dispatch.

The Washington Utilities and Transportation Commission is the state agency authorized to regulate the rates and practices of three investor-owned utilities: Puget Sound Energy, Avista Utilities, and PacifiCorp. In combination these utilities serve nearly 1.5 million retail electricity customers in Washington State.

Attached is our response to your survey questions. Please contact Dick Byers at [dbyers@wutc.wa.gov](mailto:dbyers@wutc.wa.gov) or 360-664-1209 if you have questions regarding our responses.

Sincerely,

Carole J. Washburn  
Executive Secretary

## Survey Responses of the Washington Utilities and Transportation Commission

### **1) What are the procedures now used in your region for economic dispatch? Who is performing the dispatch (a utility, an ISO or RTO, or other) and over how large an area (geographic scope, MW load, MW generation resources, number of retail customers within the dispatch area)?**

Retail utilities in Washington operate under a state-law “obligation to serve” their retail customers. Each utility maintains a portfolio of owned and contracted power resources adequate to fulfill this obligation. The utility is the entity that makes dispatch decisions to utilize its power supply portfolio to achieve least-cost, reliable service to the retail customers in its service territory.

Utility economic dispatch is determined generally by the running costs of available resources and/or wholesale market purchases. However, this general principal operates within some important constraints.

- a) Power supply in the Pacific Northwest is dominated by hydropower. The use of hydropower resources is constrained by the annual availability of streamflow and by a variety of non-power factors including: flood control, fish management, irrigation, recreation and transportation. To accommodate all of these needs and to capitalize on the flexibility of the hydropower system, dispatch of the hydropower is governed by cooperative agreements among Northwest utilities. The Pacific Northwest Coordination Agreement seeks to optimize use of available streamflow on an annual basis. The Mid-Columbia Hourly Coordination Agreement governs day-to-day and hour-to-hour facility operations. These agreements establish the context within which the utilities are able to include hydropower in their dispatch decisions. Notwithstanding the fact that hydropower has the lowest running costs of any of the resources available to utilities, much hydropower is used to “follow-load” rather than as a base-load resource in the dispatch stack.
- b) Some utility resources are must-run and therefore are included in the dispatch regardless of their running costs. Examples include certain QF contracts, run-of-river small hydroprojects, and IPP contracts that are negotiated as non-dispatchable.
- c) Dispatch decisions are necessarily affected by conditions on the transmission system. In some cases transmission constraints associated with reliability, contract terms, or other matters can impair the use of an otherwise economic dispatch.
- d) Just as fuel for the hydropower system (water) can be limited, fuel for gas-fired power plants can also be constrained. Consequently, the dispatch of gas-fired plants—whether utility or non-utility—will be affected by fuel availability. Gas-fired plants are frequently built with no fuel back-up, so availability of natural gas is a hard constraint.

To the degree they are selling under contract to utilities, non-utility generators are included in the utility's dispatch stack according to the terms established in their contracts. The non-utility generator makes its own plant dispatch decisions to fulfill contract obligations based on its own circumstances and whether it can fulfill its obligations most economically by running its plant or by purchasing from the bilateral wholesale market.

**2) Is the Act's definition of economic dispatch (see above) appropriate? Over what geographic scale or area should economic dispatch be practiced? Besides cost and reliability, are there any other factors or considerations that should be considered in economic dispatch, and why?**

The definition is generally appropriate, but should be clarified to include non-power and environmental constraints. In addition, the focus of the definition and these survey questions appears to be on the short-term decisions that guide day-to-day and hour-to-hour operations. As noted above, hydropower operations are affected by longer-term decisions regarding the optimal use of available streamflow. This important and defining characteristic of the power system in the Pacific Northwest should not be discounted in favor of a focus on short-term economic dispatch.

**3) How do economic dispatch procedures differ for different classes of generation, including utility-owned versus non-utility generation? Do actual operational practices differ from the formal procedures required under tariff or federal or state rules, or from the economic dispatch definition above? If there is a difference, please indicate what the difference is, how often this occurs, and its impacts upon non-utility generation and upon retail electricity users. If you have specific analyses or studies that document your position, please provide them.**

Utility dispatch decisions are based on each utility's unique circumstances and the economic and non-economic characteristics and locations of its available generation resources. Circumstances are case-by-case and generalization is not meaningful. Our answer to question number "1" notes that for certain resources (hydropower, QFs, must-run small-hydropower, and non-dispatchable contracts) dispatch decisions are not strictly determined by lowest running cost. To the extent differences exist between utility-owned and non-utility generation, these are established in contract terms to which the non-utility generator and the utility have agreed. If there is no contract, both the utility and non-utility generator buy and sell in the same wholesale market and these bi-laterally determined market prices will drive whether non-contracted, non-utility generation is dispatched or not.

Operational practices will invariably depart from those assumed when retail rates are set. Retail ratemaking assumes normal conditions of streamflow, load, and other factors. Actual conditions always depart from normal and therefore actual utility dispatch decisions will depart from those assumed in the power cost models used to determine retail rates. The utility will nonetheless follow the tenants of least-cost dispatch under whatever conditions it faces in order to maximize the likelihood that its allowed rates will cover its actual costs.

**4) What changes in economic dispatch procedures would lead to more non-utility generator dispatch? If you think that changes are needed to current economic dispatch procedures in your area to better enable economic dispatch participation by nonutility generators, please explain the changes you recommend.**

We have no changes to recommend. To the degree that non-utility generators contract to sell power to utilities they are dispatched according to the terms of those contracts. To the degree non-utility generators sell or buy in the bi-lateral, short-term market they participate in the same market as do the utilities and therefore will be dispatched according to prices in that market. To compel dispatch of non-utility generation in some other way would fundamentally disrupt the ability of utilities to fulfill their service obligations at lowest cost with resources being paid for by the utility's retail customers.

**5) If economic dispatch causes greater dispatch and use of non-utility generation, what effects might this have – on the grid, on the mix of energy and capacity available to retail customers, to energy prices and costs, to environmental emissions, or other impacts? How would this affect retail customers in particular states or nationwide? If you have specific analyses to support your position, please provide them to us.**

The question seems to assume that if dispatch were economic it would likely cause greater use of non-utility generation. We are aware of no evidence that this would be the case. In fact, as we have noted above, non-utility generation is included in the dispatch stack according to its contract terms or its relative price in the bilateral, wholesale market. Given the characteristics of the hydropower system in the Northwest, capacity is a difficult thing to evaluate (e.g. the hydropower system is capacity rich and energy-limited). Notwithstanding these circumstances, non-utility generation capacity can be valuable for retail customers. The best way for this value to be captured and compensated is through long-term contracts with utilities, not through short-term economic dispatch.

**6) Could there be any implications for grid reliability – positive or negative – from greater use of economic dispatch? If so, how should economic dispatch be modified or enhanced to protect reliability?**

If economic dispatch were implemented regardless of transmission system conditions and reliability constraints, it would be the case that economic dispatch would degrade reliability. Today, economic dispatch is practiced within the reliability constraints of the transmission system and we would strongly advise that it stay that way.